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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Rudolf Bohdal

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EXAMINER

YOUNGER, SEAN JERRARD

ART UNIT

PAPER NUMBER

3745

MAIL DATE

DELIVERY MODE

11/19/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/564,076	Applicant(s) BOHDAL, RUDOLF	
	Examiner SEAN J. YOUNGER	Art Unit 3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 January 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10 January, 2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because the drawing in a nonprovisional application must show every feature of the invention specified in the claims. However, conventional features disclosed in the description and claims, where their detailed illustration is not essential for a proper understanding of the invention, should be illustrated in the drawing in the form of a graphical drawing symbol or a labeled representation (e.g., a labeled rectangular box). Applicant's Figure 1 has rectangular boxes, but they are not labeled. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required

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corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claim 24 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. In its current form, claim 24 does not include the limitations of claim 21 because it reverses method steps defined in claim 21.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 24-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 24, dependent on claim 23, which in turn depends from claim 21, describes the method step of manufacturing a vane segment from at least two vanes involves 1) molding each vane separately, 2) separately debinding the vanes, and then 3) joining vanes together. However, claim 21 has already defined the step of manufacturing a vane segment as 1) molding each vane separately, 2) joining the vanes together, and then 3) debinding the joined segment. It

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appears that claim 24 reverses the established join > debind process (claim 21) to a debind > join process, which renders the claim indefinite, since the dependent claim must include all the limitations of the claim(s) upon which it depends. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 17-20 and 27-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Ford Motor Company, Ltd. (Ford) [GB 1,470,949]. Regarding claims 29-31 and 17-19, Ford discloses a component for a gas turbine engine [page 1, lines 17-18], including at least three guide vanes, which is manufactured by powder metallurgy injection molding [page 1, lines 35-38].

7. Regarding claim 20, Ford's manufacturing process comprises the steps of mixing a metal powder having a binding agent into a homogeneous material [page 1, lines 35-36], forming at least one molded body from the homogeneous material via injection molding [page 1, lines 36-38], subjecting the molded body to a debinding process [page 1, lines 38-40], and compressing the at least one molded body via sintering to form the vane segment [page 2, lines 83-86].

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8. Regarding claims 27 and 28, Ford discloses a joint molded body for all vanes (first element, 10) which is manufactured by injection molding. The joint molded body is subjected to a uniform debinding and sintering processes.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 21-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ford Motor Company, Ltd. (Ford) [GB 1,470,949] in view of Sugihara et al. [U.S. 5,554,338]. Regarding claims 21-23, Ford discloses all elements substantially as claimed, but fails to disclose that vane segments are formed by manufacturing parts separately and joining them prior to the debinding process. Sugihara et al. teach a method of preparing a composite sintered body, where a molded body for each part is prepared and then the molded bodies are joined together in the green state prior to the debinding and sintering process to form one molded body. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the method of Ford to include the ability to form individual elements and join them before debinding and sintering, as taught by Sugihara et al., because the technique for improving a particular class of devices was within the capabilities of a person of ordinary skill, in view of the teaching of the technique for improvement in similar situations.

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11. As far as claims 24-26 are definite, they are rejected as applied to claims 21-23.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

13. The patent to Sweetland [U.S. 7,241,416] discloses a metal injection molded rotor and shaft which are joined together with a sintered metal power/binder mixture.

14. The patent to Gegel et al. [U.S. 6,551,551] discloses a method of joining injection molded powder metallurgy components using a bonding agent.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SEAN J. YOUNGER whose telephone number is (571)270-3763. The examiner can normally be reached on M-F 7:30-5:00 EST, Alt. Fri off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on 571-272-4820. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sean J. Younger/
Examiner, Art Unit 3745

/Edward K. Look/
Supervisory Patent Examiner, Art Unit 3745